

STATEMENT OF LEGAL AND FACTUAL BASIS

DuPont – Spruance Plant
5401 Jefferson Davis Highway
Richmond, Virginia
Permit No. PRO50397

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, DuPont has applied for a Title V Operating Permit for its Richmond, Virginia facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact: _____
Jennifer Hoeffner
(804) 527-5123

Date:

Air Permit Manager: _____
James E. Kyle, P.E.

Date:

Deputy Regional Director: _____
Kyle I. Winter, P.E.

Date:

FACILITY INFORMATION

Permittee

DuPont – Spruance Plant
5401 Jefferson Davis Highway
Richmond, Virginia 23234

Responsible Official

Dean W. Thompson
Plant Manager

Facility

DuPont – Spruance Plant
5401 Jefferson Davis Highway
Richmond, Virginia 23234

Contact Person

Joe G. Loschiavo
Environmental Associate
804-383-3911

County-Plant No.: 041-00001

SOURCE DESCRIPTION

NAICS Code 325222 – Noncellulosic Organic Fiber Manufacturing

The facility manufactures synthetic resins, fibers and sheet products, polyamide resins and spunbonded/non-woven fabric through a variety of processes.

The facility is a Title V major source of volatile organic compounds (VOC) and hazardous air pollutants (HAPs). This source is located in an attainment area for all pollutants, and is a NSR major source. The area is an ozone maintenance area, and is in VOC and NOx emission control areas. Sections of the facility are currently permitted under multiple permits: a February 25, 2011 Article 8 permit amendment for the NOMEX® process area, a January 22, 2014 Article 6 permit amendment for the Kevlar® process area, a December 28, 2011 Article 6 permit for the Tyvek® process area and a May 14, 2010 Article 6 permit for the Zytel® process area. The facility was issued an initial TV permit on July 14, 2004. The TV renewal was issued on August 15, 2012. The current permit action is for a significant modification based on the latest issuance of the Minor NSR Permit dated January 22, 2014. The application for the significant modification was received on November 12, 2013 by the Virginia Department of Environmental Quality and was deemed administratively complete February 7, 2014.

COMPLIANCE STATUS

A full compliance evaluation (August 6, 2013) of this facility, including a site visit, has been conducted. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

Only the emissions units associated with the proposed significant modification have been listed below:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity *	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Kevlar® Process Area							
SEE01	SES04	Polymerization/Mixer	25.5 Kevlar® Polymerization Units/hr	DuPont designed solvent recovery system including scrubber, extraction and distillation; covers the entire Kevlar® process area.	SCD06	VOC/HAP	January 22, 2014
SEE02	SES04	Milling	Same as SEE01	N/A	N/A	N/A	January 22, 2014
SEE03	SES04	Polymer Washing	Same as SEE01	N/A	N/A	N/A	January 22, 2014
SEE04	SES04	Polymer Dryer	Same as SEE01	N/A	N/A	N/A	January 22, 2014
SEE11(A)	SES05, 12, 13, 15, 21-23	Plant 2 Mixers	12.64 Kevlar® Solution Prep Units/hr	N/A	N/A	N/A	January 22, 2014
SEE11(B)	SES05, 12, 13, 15, 21-23	Plant 3 Mixers	Same as SEE11A	N/A	N/A	N/A	January 22, 2014
SEE12(A)	SES05, 12, 13, 15, 21-23	Plant 2 Solution/Blending	Same as SEE11A	N/A	N/A	N/A	January 22, 2014
SEE12(B)	SES05, 12, 13, 15, 21-23	Plant 3 Solution/Blending	Same as SEE11A	N/A	N/A	N/A	January 22, 2014

SEE21	SES08-11, 14, 16-20	Spinning Machine 6	56.23 Kevlar® Spinning Units/hr	N/A	N/A	N/A	January 22, 2014
SEE22	SES08-11, 14, 16-20	Spinning Machine 7	Same as SEE21	N/A	N/A	N/A	January 22, 2014
SEE23	SES08-11, 14, 16-20	Spinning Machine 31	Same as SEE21	N/A	N/A	N/A	January 22, 2014
SEE24	SES08-11, 14, 16-20	Spinning Machine 32	Same as SEE21	N/A	N/A	N/A	January 22, 2014
SEE25	SES08-11, 14, 16-20	Spinning Machine RD	Same as SEE21	N/A	N/A	N/A	January 22, 2014
SEE26	SES08-11, 14, 16-20	Spinning Machine LD1	Same as SEE21	N/A	N/A	N/A	January 22, 2014
SEE31	SES01	Extraction Column	270 Kevlar® Solvent Recovery Units/hr	DuPont designed scrubber	SCD01	VOC/HAP	January 22, 2014
SEE32	SES01	Stripper Column	Same as SEE31	DuPont designed scrubber	SCD01	VOC/HAP	January 22, 2014
SEE33	SES01	Distillation Column	Same as SEE31	N/A	N/A	N/A	January 22, 2014
SEE34	SES01	Chloroform Column	Same as SEE31	DuPont designed scrubber	SCD01	VOC/HAP	January 22, 2014
SEE35	SES27	Sulfuric Acid tank	Same as SEE31	N/A	N/A	N/A	January 22, 2014
SET01	SES01	Chloroform storage tank	193,536 Kevlar® Storage Units (KSU)	DuPont designed scrubber or dedicated storage tank scrubber	SCD01 or SCD07	VOC/HAP	January 22, 2014
SET02	SES28	PPD storage tank	72,964 KSU	DuPont designed scrubber	SCD04	VOC/HAP	January 22, 2014
SET03	SES30	TCL – North storage tank	156,620 KSU	DuPont designed scrubber	SCD02	VOC	January 22, 2014

SET04	SES31	TCL – South storage tank	85,950 KSU	DuPont designed scrubber	SCD03	VOC	January 22, 2014
SET05	N/A	NMP storage tank	72,962 KSU	N/A	N/A	N/A	January 22, 2014
SET06	N/A	Premix Feed tank	1031 KSU	N/A	N/A	N/A	January 22, 2014
SET07	N/A	Premix Reclaim tank	17,190 KSU	N/A	N/A	N/A	January 22, 2014
SET08	N/A	Filter Feed tank	10,505 KSU	N/A	N/A	N/A	January 22, 2014
SET09	N/A	Mother Liquor Receiver tank	2,674 KSU	N/A	N/A	N/A	January 22, 2014
SET10	N/A	Mother Liquor tank	4,966 KSU	N/A	N/A	N/A	January 22, 2014
SET11	N/A	Wash Receiver No. 1 tank	1,910 KSU	N/A	N/A	N/A	January 22, 2014
SET12	N/A	Weak Feed tank	522,767 KSU	N/A	N/A	N/A	January 22, 2014
SET13	N/A	Intercept tank	7,124 KSU	N/A	N/A	N/A	January 22, 2014
SET14	N/A	Solvent Premix tank	33,014 KSU	N/A	N/A	N/A	January 22, 2014
SET15	N/A	Premix Mix tank	27,888 KSU	N/A	N/A	N/A	January 22, 2014
SET16	N/A	Premix storage tank	245,435 KSU	N/A	N/A	N/A	January 22, 2014
SET17	SES29	PPD storage tank	124,150 KSU	DuPont designed scrubber	SCD05	VOC/HAP	January 22, 2014
SET18	N/A	West Wash Receiver No. 1 Tank	2,894 KSU	N/A	N/A	N/A	January 22, 2014
SET19	N/A	West Mother Liquor Receiver Tank	4,259 KSU	N/A	N/A	N/A	January 22, 2014
SET20	N/A	Mother Liquor Neutralization Tank	9,710 KSU	N/A	N/A	N/A	January 22, 2014
SET21	N/A	Dhy Feed Tank (also backup to SET 12)	322,790 KSU	N/A	N/A	N/A	N/A
SEE36	N/A	Cooling Tower Cell #1	2600 Kevlar® Cooling Units	N/A	N/A	N/A	January 22, 2014
SEE37	N/A	Cooling Tower Cell #2	2600 Kevlar® Cooling Units	N/A	N/A	N/A	January 22, 2014
SEE38	N/A	Cooling Tower Cell #3	2600 Kevlar® Cooling Units	N/A	N/A	N/A	January 22, 2014
SEE39	N/A	PPD Unloading Station #1	180,510 PPD Loading Units	N/A	N/A	N/A	January 22, 2014

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SEE40	N/A	PPD Unloading Station #2	180,510 PPD Loading Units	N/A	N/A	N/A	January 22, 2014
SEE41	N/A	S.M. Yarn Processor No. 5	3.75 Kevlar® Spinning Units/hr	N/A	N/A	N/A	July 8, 1987

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

*DMAc = dimethylacetamide.

EMISSIONS INVENTORY

An emission update was received for the year 2012 and the report has been attached for reference. DuPont has indicated in the application that the emissions update properly accounts for all emissions units.

PERMIT ACTION DESCRIPTION

This Statement of Basis is to address a significant permit modification of the DuPont – Spruance Plant, Title V permit effective August 15, 2012 (TV permit). The purpose of this modification is to include the changes from the significant amendment of the NSR permit issued on January 22, 2014. This modification only addresses the Kevlar® Process Area.

EMISSION UNIT APPLICABLE REQUIREMENTS – Kevlar® Process Area

The source has emission unit specific applicable requirements for the Kevlar® process area. The sources of applicable requirements for the Kevlar® process area are as follows: the 7/8/1987 and 1/22/2014 NSR permits, the 5/30/1996 RACT Agreement, the new and modified source visible emission standard from 9 VAC 5-50-80 and 40 CFR 63 Subparts A and FFFF (MACT standard for miscellaneous organic chemical manufacturing). The conditions that are affected by the modification are described below. All other requirements as detailed and explained in the prior State of Basis are still valid.

Limitations

Condition IV.A.19- The SET 01 Chloroform Storage Tank was removed from this condition and a separate VOC control condition was added to the TV permit for this unit.

Condition IV.A.20- A VOC control requirement for the SET 01 Chloroform Storage Tank was added to the TV permit.

Monitoring/Testing/Recordkeeping/Reporting

Condition IV.B.39- A monitoring condition for the scrubber that controls emissions from the SET 01 Chloroform Storage Tank was added to demonstrate compliance with the TV permit.

Condition IV.B.42- This condition requires VOC performance tests of the Kevlar® process area and it was updated to reflect the current method of compliance demonstration.

Condition IV.C.43.a- The recordkeeping condition requires calculation records be maintained and it was updated to include how the emissions must be calculated.

Condition IV.C.43.d- This condition requires recordkeeping of emission data and operating parameters as necessary to demonstrate compliance with the TV permit. This condition was updated to reflect the current method of compliance demonstration.

Condition IV.C.43.e- This condition requires recordkeeping of emission data and operating parameters as necessary to demonstrate compliance with the TV permit. This condition was added to reflect the current method of compliance demonstration.

CAM

The changes to the TV permit from the modification do not require an additional CAM evaluation. The previous CAM determination is still valid.

STREAMLINED REQUIREMENTS

Condition IV.A.19- The SET 01 Chloroform Storage Tank and the description of the tank being alternatively controlled by a scrubber (SCD 07) was removed from this condition. A separate VOC control condition (IV.A.20) was added to the TV permit specifying that the SET 01 tank be controlled by storage tank scrubber (SCD 07) or the Kevlar® Chloroform Scrubber (SCD01).

The Condition “Reserved: Initial performance test completed” was removed from the TV permit because it is not necessary.

The Biennial VOC performance test requirement was removed from the permit. This requirement was replaced by a new VOC performance test requirement Condition IV.A.42, which reflects the current method of compliance demonstration.

The former recordkeeping requirements to verify compliance with emission limits of Condition IV.A.30 have been removed and replaced by new recordkeeping requirements (Conditions IV.C.43 d and e) that reflect the current method of compliance demonstration.

The Condition that gave the permittee the option to conduct a performance test to determine whether a potential violation constituted an actual violation has been removed from the TV permit. Because the method of compliance demonstration has changed this condition is not applicable.

GREENHOUSE GAS (GHG) REQUIREMENTS

There are no applicable GHG permitting requirements for this modification.

GENERAL CONDITIONS

There are no changes or additions of general conditions associated with this modification.

STATE ONLY APPLICABLE REQUIREMENTS

No State-Only requirements were identified with this modification.

FUTURE APPLICABLE REQUIREMENTS

No future applicable requirements were identified with this modification.

INAPPLICABLE REQUIREMENTS

No inapplicable requirements were identified with this modification.

INSIGNIFICANT EMISSION UNITS

There are no changes or additions of insignificant emission units associated with this modification.

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

The proposed permit was placed on public notice in the Style Weekly from April 23, 2014 to May 23, 2014. The permit is being concurrently reviewed by EPA. The EPA review period ended on June 2, 2014. No comments were received during the Public Comment period and US EPA did not comment on this final draft.